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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/889,113	07/11/2001	Katsuhiko Mochizuki	1232-01	7939

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EXAMINER

BOYD, JENNIFER A

ART UNIT

PAPER NUMBER

1771

DATE MAILED: 09/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/889,113

Applicant(s)

MOCHIZUKI ET AL.

Examiner

Jennifer A Boyd

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/11/03.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 and 21-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 and 21-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The Applicant's Amendments and Accompanying Remarks, filed June 11, 2003, have been entered and have been carefully considered. Claims 1 – 19 and 21 – 23 are amended, claim 20 is cancelled and claims 1 – 19 and 21 – 23 are pending. In view of the Applicant's amendments, the Examiner withdraws the 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Fujimoto (EP 1033422A1) of claims 15 – 19 and 22 – 23 as stated in the previous Office Action dated February 5, 2003. Despite this advance, the invention as currently claimed is not found to be patentable for reasons herein below.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

3. Claims 1 - 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The details of the rejection can be found in paragraphs 2 – 3 of the previous Office Action dated February 5, 2003.

Claim Rejections - 35 USC § 102/103

4. Claims 1 – 13 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Fujimoto (EP 1033422A1). The rejection is maintained.

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The details of the rejection can be found in paragraphs 4 – 6 of the previous Office Action dated February 5, 2003.

Claim Rejections - 35 USC § 103

5. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto (EP 1033422A1) in view of Matsuo (JP 11-100747). The rejection is maintained. The details of the rejection can be found in paragraph 9 of the previous Office Action dated February 5, 2003.

6. Claims 15 - 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto (EP 1033422A1) in view of Schippers (US 5,343,601).

As to claims 15 and 21, Fujimoto teaches a method of producing a poly (trimethylene terephthalate) fiber where the yarn is drawn, heat treated and then subjected to a relaxation treatment (page 6, lines 45-50). Fujimoto teaches that the multifilaments are extruded while molten (page 7, lines 31 – 33) implying melt spinning. The intrinsic viscosity of the polymer is 0.4 – 1.5, preferably 0.7 – 1.2 (page 4, lines 24 – 26). In the process, the multifilaments are extruded from a spinning machine (page 7, lines 20 – 24) and wound round a first roll heated at 30 – 80 degrees Celsius having a peripheral speed of 300 to 3,500 m/min without winding thereon (page 7, lines 10-19).

As to claim 16, Fujimoto teaches that the intrinsic viscosity of the polymer is 0.4 – 1.5, preferably 0.7 – 1.2 (page 4, lines 24 – 26).

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As to claim 17, Fujimoto teaches that multifilaments are extruded from a spinning machine at a temperature from 250 – 290 degrees Celsius (page 7, lines 20 – 24), which is 22 – 62°C higher than the melt temperature.

As to claims 18 and 22, Fujimoto teaches that the fibers are drawn on the first roll heated at 30 – 80°C having a peripheral speed of 300 to 3,500 m/min without winding thereon (page 7, lines 10-19). The draw temperature is -15 – 35°C higher than the glass transition temperature of poly (trimethylene terephthalate) which is 45°C.

As to claim 23, Fujimoto teaches that the fibers have the relaxation heat treatment performed on the second and third rolls at temperatures 100 – 160°C and 120 - 150°C respectively (page 8, lines 25 – 55).

As to claims 15 and 21, Fujimoto fails to teach that the rolls used in the drawing and heat-treatment processes has a rough surface.

Schippers teaches a method of making a synthetic yarn such in which the rolls have a rough or matte surface (column 3, lines 50 – 65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to create the poly(trimethylene terephthalate) yarn according to the process of Fujimoto with the rough surfaced rolls suggested by Schippers motivated by the expectation of ^{having} ~~have~~ better control over the drawing process.

As to claims 15 and 21, Fujimoto in view of Schippers discloses the claimed invention except for a surface roughness of 1.5S – 8S as required by claim 20 and a surface roughness of 3.2S – 6.3S as required by claim 21. It should be noted that the surface roughness is a result

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effective variable; for example, as the surface roughness increases, the drawing process is more controlled. It would have been obvious to one having ordinary skill in the art at the time the invention was made to create the rough roll with the suggested surface roughnesses since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to optimize the surface roughness to have proper control over the drawing process.

As to claims 15 and 19, Fujimoto in view of Schippers fails to teach that the relaxation factor is 6 – 20% after the relaxation heat treatment as required by claim 15 and the relaxation factor is 8 – 18% after the relaxation heat treatment as required by claim 19. Although Fujimoto in view of Schippers does not explicitly teach the claimed properties as described above, it is reasonable to presume that the said properties are inherent to Fujimoto in view of Schippers. Support for said presumption is found in the use of like materials (i.e. a multi-filament yarn comprising polytrimethylene terephthalate subjected to a relaxation heat treatment), which would result in the claimed property. The burden is upon the Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed properties mentioned above would obviously have been present once the Fujimoto in view of Schippers product is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977).

Response to Arguments

7. Applicant's arguments filed June 11, 2003 have been fully considered but they are not persuasive.

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8. In response to Applicant's arguments that claims 1 – 14 are in compliance with 35 USC 112, the Examiner respectfully argues the contrary. The only chemical and structural limitations in originally filed claim 1 is a multi-filament yarn comprising polytrimethylene terephthalate. The other limitations of claim 1 such as strength, Young's modulus and elastic recovery are properties which a direct result of chemical and structural limitations. Therefore, if the Applicant believes that the properties of his invention such as the strength, Young's modulus and elastic recovery of the polytrimethylene terephthalate yarn differ from the yarn of Fujimoto, the Applicant must recite the additional chemical and structural limitations which differentiates his invention from Fujimoto or any other invention that comprises a multifilament polytrimethylene yarn. If the said properties are not inherent, it is asserted that the claim must be incomplete. In other words, if the Applicant asserts a lack of inherency in the admitted prior art, then the Applicant's claimed invention is missing an element critical to the invention which would patentably distinguish it from the known prior art. Additionally, claims 2 – 14 are dependent on claim 1 and do not add sufficient chemical and structural limitations to differentiate it from Fujimoto. Therefore, the Examiner assumes inherency for those physical properties as well until the Applicant chemically or structurally differentiates his invention which would provide for the set forth physical limitations.

9. In response to Applicant's argument that the polyester multifilament yarn recited in claim 1 would be inherently different from the fibers of Fujimoto inasmuch as the method of producing the polyester fiber of Fujimoto and the yarn of the invention are sharply different, the Examiner respectfully argues the contrary. It should be noted that claim 1 and claim 15 are two mutually exclusive independent claims. Therefore, when examining claim 1, the Examiner is not required

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to give weight to the method steps or the said resulting product of those method steps of claim 15 because claim 1 does not depend on claim 15. Therefore, claim 1 and the depending claims 2 – 14 *only require* a multifilament polytrimethylene terephthalate yarn with the set forth chemical, structural and physical limitations and *does not require* that the product is made by a certain process (i.e. the process as set forth in claim 15). On the other hand, claim 15 and depending claims 16 – 23 are process claims and, in those claims, the process steps are given patentable weight. If Applicant requires that the product of claim 1 is made by the process of claim 15, then the Applicant should combine the claims to create a product by process claim.

10. In response to Applicant's arguments that Matsuo does not provide teachings or suggestions that would cure the deficiencies of Fujimoto, the Examiner respectfully argues the contrary. It is the position of the Examiner that the 35 U.S.C. 103(a) rejection of claim 14 as being unpatentable over Fujimoto (EP 1033422A1) in view of Matsuo (JP 11-100747) is a valid combination. Fujimoto teaches that the fiber can be in the form of a twisted yarn (page 9, line 38), however, Fujimoto fails to specify the twist coefficient which the Applicant requires to be between 10,000 – 20,000. Matsuo, just like Fujimoto teaches a polytrimethylene terephthalate yarn which is twisted, which has as a twisting coefficient of 10,000 – 30,000 (Abstract).

Therefore, it would have obvious to one of ordinary skill in the art at the time the invention was made to create the yarn of Fujimoto with a twisting coefficient as suggested by Matsuo motivated by the expectation to improve the processing performance when weaving the yarn and reduce the number of yarn breakages and fillibration of the yarn. If the Applicant believes that the combination is not valid, the Applicant must further elaborate why is not valid instead of

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simply stating that Matsuo does not provide teachings or suggestions that would cure the deficiencies of Fujimoto.

11. In response to Applicant's arguments that Schippers does not provide teachings or suggestions that would cure the deficiencies of Fujimoto, the Examiner respectfully argues the contrary. It should be noted that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, Fujimoto teaches the multifilament polytrimethylene terephthalate yarn made by a specified process. Schippers teaches a method of making a synthetic yarn such in which the rolls have a rough or matte surface (column 3, lines 50 – 65). Although, Schippers does not specifically suggest that polytrimethylene terephthalate yarn can be made by the disclosed process, Schippers does teach that the method is used to create synthetic yarn and it is known that polytrimethylene terephthalate is a type of synthetic yarn. Therefore, the fact that the invention of Schippers involves a high speed spinning method of a synthetic yarn, just like Fujimoto, the similarities along with the desire to have better control over the drawing process.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after


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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A Boyd whose telephone number is 703-305-7082. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


Jennifer Boyd
September 3, 2003

